Before the FEDERAL COMMUNICATIONS COMMISSION Washington, D.C. 20554

In the Matter of)	
)	
Review of the Commission's Rules)	
Regarding the Pricing of Unbundled)	WC Docket No. 03-173
Network Elements and the Resale of)	
Service by Incumbent Local Exchange)	
Carriers	j	

REPLY COMMENTS OF THE VERIZON TELEPHONE COMPANIES

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SUMMARY

The Commission should reform its UNE pricing rules so that UNE rates are based on the forward-looking cost of providing UNEs using the incumbents' real-world networks.

Incumbents' real-world data and costs present the best measure of efficient, forward-looking costs. Basing rates on such verifiable, objective data is far more reliable and relevant than relying on the hypothetical assumptions advocated by the CLECs under the current TELRIC rules. Rates grounded in reality are necessary to send the proper economic signals to all carriers and thereby facilitate the development of efficient facilities-based competition — a core goal of the 1996 Act.

Nevertheless, the CLECs' comments in this proceeding uniformly urge the Commission to make no adjustments to the TELRIC rules, except where doing so might push TELRIC rates even lower than they typically are today. The CLECs ignore the marketplace developments that have occurred since the adoption of TELRIC: the explosive growth of intermodal competition and the deleterious effects that the current TELRIC rules have had on telecommunications investment across the industry. But as the comments in this proceeding overwhelmingly demonstrate, seven years of experience with applying the TELRIC rules have demonstrated the urgent need to reform those rules.

First, as numerous independent analysts have recognized, the TELRIC rules have produced rates that are well below any rational measure of any carrier's real-world costs.

Indeed, Verizon demonstrated in its opening comments that UNE rates across its region are well below Verizon's actual forward-looking costs. And rates have been repeatedly ratcheted down in numerous states even though there is no evidence that costs in those states have decreased.

Second, these below-cost UNE rates have contributed to a massive decline in telecommunications industry investment across the board and have devalued existing facilities investment. In fact, the Commission's most recent competition report demonstrates that between December 2000 and June 2003, the number of CLEC-owned lines (excluding cable telephony lines) declined from 4.1 million to 3.2 million — even while the number of UNE-P lines skyrocketed from 2.8 million to 13 million. As a result, while CLEC lines using CLEC switches constituted 67 percent of CLEC lines in December 1999, that figure dropped to 35 percent by the middle of 2002.

Third, the explosion in intermodal competition since 1996 likewise indicates the need for TELRIC reform. The ILECs now face competition in every market they serve. For example, at least four cable operators have deployed circuit-switched cable telephony in twenty states, and cable telephony is now available to more than 15 million U.S. homes. Further, cable operators throughout the country have begun deploying VoIP, which analysts have characterized as one of the "largest risk[s] to Bell fundamentals" in coming years. AOL Time Warner intends to provide VoIP service on a nationwide basis by the end of this year, and Cablevision already has deployed VoIP service throughout New York and New Jersey. Other providers of VoIP are likewise proliferating. At the same time, wireless telephony is capturing significant wireline market share, and analysts estimate that wireless traffic already has displaced 30 percent of wireline minutes — a trend that is increasing rapidly. ILECs are also losing traffic as a result of the growth of e-mail and instant messaging services.

The development of robust intermodal competition multiplies the economic distortions caused by below-cost UNE rates. Forcing incumbents to subsidize CLEC entry through below-cost UNEs while competing against intermodal competitors such as cable companies and

wireless providers skews the market. Intermodal competition also undermines any possible justification for relying on regulatory speculation about efficient, forward-looking prices: the presence of vigorous intermodal competition provides substantial incentives for the incumbents to operate efficiently, and there is therefore no legitimate basis to depart from incumbents' real world network and cost data in setting UNE rates.

These marketplace developments overwhelmingly demonstrate that TELRIC reform is long overdue. The Commission must reform its UNE pricing standard so that UNE rates reflect the actual forward-looking costs the incumbents will bear to provision UNEs to CLECs. This will ensure that UNE rates provide correct economic signals to the market, restore efficient investment incentives, and fairly compensate the incumbents. The CLECs ridicule this approach by variously labeling it as "historic," "embedded," and "short-term." But this amounts to the use of epithets in place of actual analysis. In fact, only this approach accurately reflects how carriers deploy network facilities in a real-world competitive market, while at the same time capturing any constraining effect new technologies might have on the value of existing assets.

By contrast, the view of TELRIC advanced by the CLECs requires fantastic assumptions about the market that have no relationship to reality and thus no economic relevance. For example, the CLECs insist that prices should be based on the assumption that entrants stand ready to instantly deploy state-of-the-art, ubiquitous networks using up-to-the-minute technology and routing. Thus, they contend, the incumbents' prices can never be any higher than the cost of such an ideally efficient network, because they would be constrained by this theoretical competitive threat. But of course, given real-world factors such as the substantial sunk costs and uncertainty in demand that characterize the telecommunications market, no threat of such

theoretically perfect competitive entry actually exists. Basing prices on the CLECs' unrealistic theory thus will inevitably understate UNE costs.

Although the CLECs pay lip service to the principle that UNE rates should take account of real-world data, in the next breath, they claim that it is not *possible* to base UNE rates on real-world data, either because it is too complicated or because ILEC network data is incomplete or inaccurate. But it is not complicated to use the ILECs' data and engineering guidelines in designing cost studies: even the CLECs selectively use that data in their own cost models whenever that suits their purposes.

In any event, the CLECs' rhetoric that TELRIC permits the use of real-world data and thus does not have to be changed is belied by their advocacy concerning how TELRIC should be applied with respect to specific inputs. Throughout their comments, the CLECs advocate using extreme, hypothetical assumptions that bear no relationship to the way in which carriers design or operate their networks or deploy assets in the real world. For example, the CLECs argue that switching costs should be based on the unrealistic hypothesis that manufacturers would sell the majority of the switching equipment required to build out a network at the very low prices they offer today only on the small amount of new switching equipment real-world carriers buy. And they contend that the Commission should assume that the incumbent shares as much as 75% of its structure costs, based on the entirely fictional hypothesis that if all carriers and utilities built their own networks again anew, the incumbent would enjoy substantial opportunities to share structure costs. But this not only disregards the various real-world technological and other constraints that frequently preclude sharing; it also requires the regulator to assume away not only the incumbents' facilities but those that power companies and other utilities have deployed. The CLECs likewise insist that the Commission should require entirely hypothetical fills based

on the notion that carriers could operate their networks with almost no spare capacity — an assumption utterly at odds with the real-world operational constraints that *all* carriers face in providing an operational network that can respond quickly to customer and maintenance needs. And other examples abound: the CLECs hypothesize various technological solutions and systems that do not even exist.

The CLECs' advocacy thus exemplifies some of the critical problems with TELRIC. The foray into the purely hypothetical they advocate — and TELRIC permits — cannot possibly produce sound rates, and is inherently flawed. This cannot be remedied simply through minor tweaks to the existing rules. Instead, the Commission must overhaul the UNE pricing rules so they reflect objective, verifiable data about the incumbent's existing network and its actual forward-looking costs. For example, the Commission should specify that UNE rates should recover the out-of-pocket operating expenses and non-recurring costs the incumbent actually will bear during the period the rates will be in effect. And UNE cost studies should be premised on the actual technology mix the incumbent will have in place. Similarly, the studies should assume network routing that is consistent with the incumbent's engineering records and guidelines. And depreciation lives should be based on GAAP, so that they reflect the actual impact that existing and expected competitive and technological developments will have on the economic lives of the assets used to provide UNEs. Likewise, the cost of capital should be determined in a manner best designed to produce a real-world estimate of the competitive and regulatory risks involved in the provision of UNEs.

Finally, even if these adjustments are made to the UNE pricing rules, the Commission should establish a separate, competitively neutral mechanism to provide for the recovery of the incumbent's unrecovered historical costs that cannot be recovered through UNE rates. Indeed,

the Constitution requires that ILECs be compensated for such unrecovered historical costs, particularly because ILECs did not voluntarily dedicate their plant to providing UNEs to competitors. As Verizon has demonstrated, the shortfall between UNE rates and historical costs is substantial, and will continue to grow until the Commission acts.

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REPLY COMMENTS OF THE VERIZON TELEPHONE COMPANIES^{1/}

The Commission should reform the UNE pricing rules so that they reflect the incumbent's actual forward-looking costs. In particular, the Commission should abandon TELRIC's assumption of a hypothetical network with efficiencies that no real-world carrier can match. Contrary to the CLECs' comments in this proceeding, the approach Verizon proposes is both economically correct and entirely practicable. The incumbents' objective, verifiable network data presents the best measure of the way an efficient carrier would deploy and operate its network on a forward-looking basis. Reforming the UNE pricing rules so that UNE rates are based on this data will send correct economic signals to all carriers, restore investment incentives, and ensure that incumbents are fairly compensated. Moreover, basing UNE rates on the incumbents' actual forward-looking costs is legally required because it ensures that such

The Verizon telephone companies ("Verizon") are the affiliated local telephone companies of Verizon Communications Inc. These companies are listed in Attachment A.

rates are not discriminatory against the ILECs and because the Constitution requires that rates compensate a firm for the unavoidable capital costs and operating expenses it will incur to comply with a government mandate. Finally, the Commission should also establish a separate, competitively neutral mechanism to provide for the recovery of the incumbents' unrecovered historical costs.

DISCUSSION

I. TELRIC IS FUNDAMENTALLY FLAWED.

As Verizon demonstrated in its opening comments, the fundamental problem with the current TELRIC rules is that they are not tethered to any real-world network, but instead are based on a hypothetical network that assumes false efficiencies that no actual carrier can achieve. The overwhelming evidence shows that the Commission's current TELRIC rules produce below-cost rates that are discouraging investment, impeding facilities deployment by all carriers, and harming the development of a rational wholesale market.

Nothing in the CLECs' comments shows otherwise. Instead, the CLECs either ignore or deny significant market developments that have occurred since the TELRIC rules were adopted — in particular, TELRIC's devastating impact on investment incentives and the rapid rise of intermodal competition. But the record makes clear that the below-cost UNE rates produced by TELRIC send incorrect economic signals to CLECs and to the industry at large and have contributed to a massive decline in telecommunications industry investment and devalued existing facilities investment. Indeed, all evidence — including independent analyst statements, the CLECs' own statements to their investors, and the empirical evidence — confirms the harmful effects of the current TELRIC rules.

- A. The Record Demonstrates That TELRIC Produces Below-Cost Rates,
 Discourages and Devalues Investment, and Precludes the Development of a
 Rational Wholesale Market.
 - 1. The CLECs' Arguments in Support of TELRIC Are Contrary to Fact.

As Verizon's initial comments demonstrated, TELRIC is fundamentally flawed because it does not base prices on the realities of the incumbent's existing network, but instead on a hypothetical network design that has instantaneously deployed only the most efficient

technologies available in an optimal configuration. See Comments of Verizon at 4-5 (Dec. 16, 2003) ("Verizon Comments"). Because no real-world carrier can match the hypothetical efficiencies assumed by TELRIC, that methodology produces UNE rates that are lower than the costs that any real-world carrier could achieve and that bear no relationship to the prices that would be produced in a real-world competitive market. The Commission already has reached this same conclusion: in its Triennial Review Order, it noted that even for an entrant that can take advantage of all the new technologies and most efficient network configuration — and therefore enjoys a competitive advantage compared to an incumbent — "the costs of selfproviding . . . elements is likely much higher than obtaining them from the incumbent priced at TELRIC."2/ Commission Staff likewise has concluded that the current TELRIC pricing regime understates costs and deprives carriers of the ability to recover their investment.³/ independent analysts also have recognized that TELRIC produces rates that are significantly below incumbents' costs. For example, Commerce Capital Markets concluded that, "[f]or all RBOCs, UNEs are priced below cash operating cost, and radically below total operating cost including depreciation and amortization. The discounts from total cost are 50%-60% below cost even when total cost does not include cost of equity . . . $\frac{4}{3}$

Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, 18 FCC Rcd 16978, 17304 ¶ 517 n.1581 (2003) ("*Triennial Review Order*"). Chairman Powell has similarly noted that UNE rates based on TELRIC are "subsidized and below costs." Jerome Pelofsky, *FCC Chief Denies Leaving, Outlines Media Agenda*, The Star-Ledger, Aug. 19, 2003.

David M. Mandy and William W. Sharkey, Dynamic Pricing and Investment from Static Proxy Models, OSP Working Paper Series, No. 40 (Sept. 2003) ("OSP Paper").

Anna M. Kovacs et al., Commerce Capital Markets, Equity Research, The Status of 271 and UNE-Platform in the Regional Bells' Territories, at 15 (May 1, 2002) (emphasis added); see also Moody's Investors Service, Special Comment: The Far Reaching Impact of UNE-P Regulation, at 4 (Oct. 2003) (finding that today's average UNE-P rates would require ILECs

The CLECs make three arguments in their attempt to salvage TELRIC. Each, however, is contrary to fact. First, while the CLECs concede that the incumbent would not instantaneously or ubiquitously deploy new technology, they insist that "the advent of improved technology will cause older assets to be revalued" immediately. Comments of AT&T Corp. at 22 (Dec. 16, 2003) ("AT&T Comments") (emphasis in original); see also Comments of MCI at 16-17 (Dec. 16, 2003) ("MCI Comments"). To explain why this would occur, they posit that telecommunications should be treated as a perfectly "contestable" market. AT&T Comments at 22-23, 90-91; Declaration of Robert D. Willig on Behalf of AT&T ¶ 24-31 (Dec. 16, 2003) ("AT&T Comments, Willig Decl."). In other words, they assume that the incumbent "faces the potential of instantaneous and frictionless entry by a potential competitor employing the most efficient technology." AT&T Comments, Willig Decl. ¶ 25; see also id. ¶ 23 (explaining that contestability assumes "costlessly reversible entry"). But this is as much a pure fantasy as the suggestion that the incumbent would rip out its existing network and deploy new technologies instantaneously and ubiquitously. See Reply Declaration of Howard Shelanski and Timothy Tardiff Submitted in Support of the Reply Comments of the Verizon Telephone Companies ¶¶ 7-8 (Jan. 30, 2004) ("Shelanski/Tardiff Reply Decl.").

The reality is that *all* carriers — incumbents and entrants alike — will deploy new technologies only gradually and will always have a mix of technologies of different vintages in their networks. Shelanski/Tardiff Reply Decl. ¶ 7; Declaration of Howard Shelanski Submitted in Support of the Comments of the Verizon Telephone Companies ¶¶ 6-10 (Dec. 16, 2003)

somehow "to dramatically lower their operating expenses in order to . . . at least break even, on a UNE-P line sale and cover ordinary capex"); Gregory P. Miller & Chris Chapple, Fulcrum Global Partners, Wireline Communications: UNE-P Remains in the Crosshairs, at 2, 3 (Aug. 18, 2003) ("Fulcrum Report") (UNE-P pricing allows CLECs to "ride the RBOC shareholder's investment for next to nothing").

("Shelanski Decl."); Declaration of Alfred E. Kahn and Timothy Tardiff Submitted in Support of the Comments of the Verizon Telephone Companies ¶¶ 18-20 (Dec. 16, 2003) ("Kahn/Tardiff Decl."). As a result, the actual forward-looking costs the incumbent incurs in a real-world competitive market will reflect this efficient mix of technologies, not the hypothetical, idealized networks of CLEC fiction. And, as discussed further below, whatever constraining or "revaluation" effect new technologies have on older technologies in the incumbent's network is accounted for by valuing those assets based on current market prices.

Second, the CLECs claim that TELRIC already fully accounts for the "real world" because it does not preclude the use of data concerning external constraints such as topography and customer locations. AT&T Comments at 26; MCI Comments at 21-22. But the CLECs pick and choose the real-world constraints they say TELRIC permits to be considered and those they claim must be ignored. To take just one example, AT&T asserts that, in determining the savings incumbents allegedly can achieve by sharing structure (e.g., poles) with other utilities, TELRIC "provides no reason not to exploit all sharing opportunities that would exist if telephone and utility networks were being built anew." AT&T Comments at 71 (emphasis added). In other words, AT&T contends that TELRIC requires the regulator to assume away the real-world facilities that power companies and other utilities have deployed and pretend that they too are instantaneously built from scratch. And of course, the CLECs insist that TELRIC requires ignoring how the incumbent actually has designed its network and deployed its technologies; even though this is the best evidence of the effect of "external" constraints on a real world, efficient network.

Ultimately, the CLECs fall back to the position that any attempt to model a hypothetical network from scratch cannot take account of many constraints imposed by the real world because

doing so would be too complex. AT&T Comments at 28; MCI Comments at 21; Comments of Z-Tel Communications Inc. at 5-6 (Dec. 16, 2003) ("Z-Tel Comments"). But that is not a justification for relying on hypothetical abstractions. Rather, it demonstrates the need to reform UNE pricing rules so that costs are based on the incumbent's existing network: that network actually provides service in the real world and therefore by definition must take into account the numerous geographical, zoning, and other external constraints that CLECs largely would ignore.

Third, the CLECs assert that incumbents have not demonstrated that specific TELRIC rates are below cost. See AT&T Comments at 19, MCI Comments at 9; Comments of Sprint Corp. at 8 (Dec. 16, 2003) ("Comments of Sprint"). But that is simply untrue: as Verizon explained in its opening comments, a comparison of the rates set by state commissions and the rates proposed by Verizon in those proceedings — which serve as a conservative proxy for Verizon's actual forward-looking costs — reveals that UNE rates do not come close to allowing Verizon to recover its actual forward-looking costs. Declaration of Patrick A. Garzillo ¶ 37-38 (Dec. 16, 2003) ("Garzillo Decl.). Indeed, Verizon's study estimates that shortfalls produced by the TELRIC rates set by state commissions range from more than \$148 million in Massachusetts

The CLECs also suggest that any shortfall in TELRIC rates can be fixed by simply adjusting the cost of capital and depreciation lives. *See* AT&T Comments at 35; MCI Comments at 18. But such a "fix" would require adjusting the cost of capital and depreciation to reflect the extraordinarily high regulatory risks of providing service in a market where entrants are at any time able to introduce ubiquitous networks employing the most efficient technologies. *See* Shelanski Decl. ¶ 14. Such adjustments likely would result in TELRIC prices that are *far higher* than those that would be produced by an economically rational forward-looking cost approach that does not suffer from the core defects in TELRIC. Accordingly, attempting to solve the problem of below-cost rates by adjusting the cost of capital and depreciation would only perpetuate the distortions created by TELRIC. *See id*.

The rates proposed by Verizon in UNE cost proceedings in fact understate Verizon's actual forward-looking costs because they were developed under the constraints of the TELRIC rules. *See* Garzillo Decl. ¶ 37.

over four years (from 2002 to 2005) to more than \$1.2 billion in New York over that same time frame. *Id*.

2. TELRIC Sends Distorted Economic Signals That Have Deterred New Investment and Devalued Existing Investments by All Carriers.

The evidence overwhelmingly demonstrates that the current TELRIC rules send incorrect economic signals to all carriers. By setting UNE prices at below-cost levels that allow CLECs to reap substantial margins, TELRIC has devalued existing telecommunications investment and discouraged all carriers — incumbents, CLECs, and intermodal carriers alike — from investing in telecommunications infrastructure. Although the CLECs attempt to deny these effects, they produce no evidence to the contrary.

There is no question that TELRIC rates have contributed to a decline in investment by all wireline carriers: between 2000 and 2003, as TELRIC rates decreased, overall investment by wireline telecommunications carriers dropped from \$104.8 billion to approximately \$33 billion — a decline of more than \$70 billion. TELRIC also has devalued existing investment for all carriers. As one economist notes, "[m]arket capitalization in the telecom industry has fallen by \$2 trillion." John Rutledge, *Telecom Deregulation: It's Time for That Call*, Investor's Business Daily, Nov. 24, 2003, at A20. Indeed, one analyst estimates that TELRIC has "devalue[d] three quarters of the Nation's telecom infrastructure by two-thirds." *Cleland Statement* at 2. And this decrease and devaluation has had a significant harmful effect on the U.S. economy. For example, analysts have found that TELRIC pricing has contributed to an annual decline in

Skyline Marketing Group, *CapEx Report: 2002 Annual Report*, Carrier Data Sheet 1 (June 2003) (2000 data); Skyline Marketing Group, *CapEx Report: 3Q03*, Carrier Data Sheet 1 (Jan. 2004) (2003 estimate based on data through 3Q 2003).

economic output and national income equivalent to \$101 per household. Although the economy is showing signs of recovery, the telecommunications industry continues to lag behind. Indeed, "telecom was the only sector in the S&P 500 with negative revenue growth in 2Q03."

CLEC investment in particular has declined significantly as a result of TELRIC prices.

See Verizon Comments at 8-14. A recent report by the New Paradigm Resources Group shows that capital spending by facilities-based CLECs plummeted from \$17 billion in 2001 to under \$3.9 billion in 2003. Indeed, according to the most recent Commission competition data released just last month, from December 2000 to June 2003 the number of CLEC-owned lines (other than cable telephony) declined from 4.1 million to 3.2 million even while the number of UNE-P lines skyrocketed from 2.8 to approximately 13 million. FCC, Local Telephone

Competition: Status as of June 30, 2003 (Dec. 2003) Tables 3-5. Thus, while CLEC lines using CLEC switches constituted 67 percent of CLEC lines in December 1999, that figure dropped to 35 percent by the middle of 2002. As Chairman Powell has observed, "[i]n just eight of the

Stephen B. Pociask, New Millenium Research Council and Competitive Enterprise Institute, *The Effects of Bargain Wholesale Prices on Local Telephone Competition: Does Helping Competitors Help Consumers?*, at 20 (June 2003).

See Declaration of Thomas W. Hazlett, et al. ¶ 13 (Dec. 16, 2003) ("Hazlett Decl."); Adam Quinton, Merrill Lynch, AT&T Corp., at 1 (Dec. 12, 2003).

Morgan Stanley, 2003 Trend Tracker: Casualties of War, at 3 (Aug. 19, 2003).

New Paradigm Resources Group, Inc., *CLEC Report 2004*, Ch. 2 at Table 5 (18th ed. 2004).

R.E. Talbot, RBC Capital Markets, Industry Report, *Integrated Telecommunication Services – Moderating Expectations for Triennial Review*, Investext Rpt. No. 7229059, at *13 (Feb. 18, 2003) ("We expect this trend to continue as CLECs pursue UNE-P based strategies in additional markets.").

states where carriers now make extensive use of UNE-P, competitors are connecting more than 45,000 fewer lines per month — or more than half a million *fewer* lines per year — to their own switches using unbundled loops compared to 2000." In at least two of these eight states, the number of UNE-L lines has actually *decreased* in absolute terms. He must profitable option for CLECs even where CLECs have already incurred significant investment costs to deploy switches. This evidence does not, as the CLECs argue, show that the current TELRIC rules have encouraged the CLECs to *overinvest* in facilities, *see* AT&T Comments at 33; Sprint Comments at 10, but rather that TELRIC is sending incorrect economic signals and making UNE-P so attractive as to artificially induce CLECs to rely on UNEs instead of their own facilities.

The CLECs are equally unsuccessful in their attempts to deny that the current TELRIC rules discourage new investment by *ILECs* and other facilities-based providers. *See* Verizon Comments at 14-18; Shelanski Decl. ¶¶ 4-5. Investment by Bell companies declined by approximately 50% between 2000 and 2003 alone. Verizon's own investments are entirely consistent with this trend: from 2000 to 2002, Verizon's capital expenditures for its domestic wireline business dropped from approximately \$12.1 billion to approximately \$7 billion, a

Triennial Review Order, Separate Statement of Chairman Michael K. Powell, at 6 (Aug. 21, 2003) (emphasis in original) ("Powell Statement"). The eight states are New York, New Jersey, Massachusetts, Georgia, Florida, Illinois, California, and Texas.

See Petition for Expedited Forbearance of the Verizon Telephone Companies, filed in WC Docket No. 03-157, Petition for Forbearance from the Current Pricing Rules for the Unbundled Network Element Platform, Attachment B, "The Negative Effect of Applying TELRIC Pricing to the UNE Platform on Facilities-Based Competition and Investment," at 15-16.

See Skyline Marketing Group, CapEx Report: 2002 Annual Report, Carrier Data Sheet 1 (June 2003); Skyline Marketing Group, CapEx Report: 3Q03, Carrier Data Sheet 1 (Jan. 2004) (2003 estimate based on data through 3Q 2003).

decline of over 40%. Verizon Communications, Form 10-K at 18 (SEC filed Mar. 14, 2003). The CLECs claim that Verizon's recent announcement of a fiber-optic investment initiative shows that TELRIC is not discouraging ILEC investment. *See* AT&T Comments at 5, 31; Sprint Comments at 10. But these investment plans were released after the Commission's determination in the *Triennial Review Order* that such facilities are no longer subject to unbundling requirements. Far from supporting the CLECs' arguments, they demonstrate that incumbents' investment incentives increase when they are *not* forced to lease their facilities at below-cost UNE rates. ^{16/}

The CLECs nonetheless insist that UNE-P has *increased* investment by incumbents. But that makes no sense. Under the TELRIC regime, incumbents are competitively disadvantaged by investing in their networks: any investment the incumbent makes in its wireline network is immediately available at below-cost TELRIC rates to CLECs, who can obtain the benefits of this investment without bearing the accompanying risks. The studies on which the CLECs rely for their position are seriously flawed. Indeed, the Commission has already rejected a study put forward by AT&T purporting to show that UNE-P increased ILEC investment. *See* AT&T Comments at 36. Among other things, the Commission noted that the study was "methodologically suspect" because it measured incumbent investment per capita instead of investment per access line. *Triennial Review Order* at 17090-92 ¶ 178 n.576. The Commission further concluded that a number of variables used in the study were "not well explained, subject to significant errors, and appear suspect lacking significant additional explanation." *Id.* The

See Netaxis, Verizon (Dec. 1, 2003) (noting that Verizon is directing investment toward "services that are free from unbundling requirements, and away from services such as copper UNE-Ps and EELs that must be wholesaled to competitors at subsequently much lower rates of return").

other studies on which the CLECs rely, conducted by the Phoenix Center, are similarly flawed and are inconsistent with the conclusions that independent analysts have uniformly reached. ^{17/} For example, both studies assume that the addition of each UNE-P causes an increase in ILEC investment that is higher than the total amount of capital already in place for a non-UNE-P line. *See* Hazlett Decl. ¶¶ 21. That is nonsensical. Moreover, the basic methodology used in both studies is fundamentally flawed in a number of ways. *See id.* ¶¶ 20-26. Adjustment of even a small subset of these flaws eliminates the statistical correlation these studies purportedly find. *See id.* ¶ 21.

Ultimately, the CLECs do not so much deny the dramatic fall-off in the pace of new investment as they resort to saying it does not matter. AT&T argues that the massive decline in overall investment in the wireline industry is not significant because new investment has not been eliminated altogether, and therefore overall investment (as measured in terms of "gross capital stock") is still growing. *See* AT&T Comments at 30. But this data does not provide an accurate measure of investment growth: it makes much more sense to look at the change in the flow of net investment (*i.e.*, changes in the rate of growth of investment) to examine the incentive effects of the current TELRIC rules. As the D.C. Circuit has explained, "the existence

Bulletin No. 5, was rebutted by Verizon in CC Docket No. 03-157. The second study, Phoenix Center Policy Bulletin No. 6, purports to "incorporate the comments and suggestions of the BOCs' advocates," but is also fundamentally flawed. See Hazlett Decl. ¶¶ 20-26. The Phoenix Center recently released a new bulletin in which it makes the remarkable claim that the advent of "one price, all distance" bundles should be credited to the growth in UNE-P competition. Phoenix Center Policy Bulletin No. 8, The \$10 Billion Benefit of Unbundling: Consumer Surplus Gains from Competitive Pricing Innovations (Jan. 27, 2004). Needless to say, this revisionist history of the development of competition ignores, among other things, that wireless providers were the primary originators of such unbundled services — which only reinforces the fact that intermodal competition is an extremely significant source of competitive pressures on all LECs

of investment of a specified level tells us little or nothing about incentive effects. The question is how such investment compares with what would have occurred in the absence of the prospect of unbundling." *USTA v. FCC*, 290 F.3d 415, 425 (D.C. Cir. 2002), *cert. denied*, 538 U.S. 940 (2003). In any event, gross capital stock, which fails to account for more than \$100 billion in accumulated depreciation, is clearly the wrong measure. As AT&T's own expert acknowledged in the *Triennial Review* proceeding, investment is properly measured as changes to "net capital stock" — gross capital less accumulated depreciation. And under this measure, even the primary study on which the CLECs rely concerning the relationship between UNE-P and investment confirms that investment is in decline.

The CLECs next claim that TELRIC's effect on investment is irrelevant as a result of the *Triennial Review Order*. They assert that the Commission "eliminated access to UNEs even where there were no demonstrated alternatives, but where . . . bypass could be deemed potentially feasible." AT&T Comments at 33-34. According to the CLECs, this means that they are now only able to purchase UNEs if investing in their own facilities is economically infeasible, so that CLEC investment incentives are irrelevant. *Id.*; *see also* MCI Comments at 12. This argument grossly misrepresents the Commission's *Triennial Review* ruling. Contrary to the CLECs' claims, the Commission did not assume that impairment in a market today means that a CLEC will *never* be able to deploy its own facility instead of relying on a UNE. Indeed, in

See Robert D. Willig et al., Stimulating Investment and the Telecommunications Act of 1996, filed in Docket No. 01-338 (Oct. 11, 2002) at 12-13 ("a measure of the net capital at the end of each year is constructed as the difference between the Total Plant in Service (TPIS) [i.e., gross capital stock] and the Accumulated Depreciation at the end of the year.").

See Competition and Bell Company Investment in Telecommunications Plant: The Effects of UNE-P, Phoenix Center Policy Bulletin No. 5, at 1 (July 9, 2003) (in 2002 alone "BOC net investment fell by about 7%").

adopting various trigger mechanisms for the switching UNE based on the number of providers using their own switches, *Triennial Review Order* at 17296-97 ¶ 50, 172989-99 ¶¶ 505, the Commission clearly anticipated that CLECs would deploy their own switches over time, even in markets in which switches might initially be subject to unbundling. Thus, nothing about the *Triennial Review Order* eliminates the need to ensure that UNE prices send correct economic signals to CLECs concerning investment.

The CLECs also claim that the *Triennial Review Order* renders irrelevant the negative effect TELRIC has on *ILEC* investment incentives because it removed broadband facilities from the unbundling regime, and therefore TELRIC will not affect ILECs' incentives to invest in broadband. *See* AT&T Comments at 36; MCI Comments at 11; Z-Tel Comments at 8-9. But the CLECs' implicit assumption that all ILEC network investment is broadband-related is factually incorrect: Verizon, for example, invested billions of dollars in its wireline network in 2002 alone.

As a last resort, the CLECs argue that TELRIC's negative effect on facilities-based investment does not matter because the Act does not express a preference for facilities-based competition, and facilities-based investment is in many cases "inefficient and socially wasteful." AT&T Comments at 32; see also Comments of CLEC TELRIC Coalition at 16 (Dec. 16, 2003) ("CLEC TELRIC Coalition Comments"). This absurd position contradicts not only the CLECs' erroneous arguments that the preservation of UNE-P at TELRIC rates is a necessary prerequisite to facilities-based competition, but also the conclusion reached by Congress, the Commission, and the courts. The Commission recently reaffirmed its conclusion that the greatest benefit to consumers will be achieved through facilities-based competition, noting that "facilities-based competition serves the Act's overall goals," and explicitly "disagree[ing] that duplication of

facilities is necessarily 'wasteful.'" *Triennial Review Order* at 17025-26 ¶ 70 & n.233. Indeed, as Justice Breyer observed, facilities-based competition is preferable because it is in "the unshared, not in the shared, portions" of the network that "meaningful competition" will emerge. ²⁰/

3. TELRIC Has Barred the Development of a Rational Wholesale Market.

Finally, TELRIC has prevented the development of a rational wholesale market. Verizon Comments at 18-19. The CLECs assert — without any specificity or support — that ILECs have no incentive to enter into rational, voluntary wholesale arrangements. *See, e.g.*, AT&T Comments at 33. But these arguments ignore economic reality. As explained in Verizon's opening comments, as a result of the explosive emergence of intermodal competition, ILECs have strong incentives to enter into wholesale arrangements at compensatory rates, as they would rather collect wholesale revenues than completely lose these revenues because that traffic ends up on alternative facilities, such as cable and wireless networks. *See* Kahn/Tardiff Decl. ¶ 13.

If not for the TELRIC regime, incumbents would be in a similar position to AT&T when the long distance market was opened to competition. There, just as here, AT&T had market incentives to enter into voluntary, rational agreements with wholesale customers to keep as much long distance traffic as possible on its network rather than losing traffic (and revenues) to competing facilities. As a result, a wholesale market developed in which carriers purchased capacity from AT&T at compensatory rates and resold that capacity to end users. By requiring

²⁰ AT&T Corp. v. Iowa Utils. Bd., 525 U.S. 366, 429-30 (1999) (Breyer, J., concurring), aff'd in part, vacated in part sub nom. Verizon Communications, Inc. v. FCC, 535 U.S. 467 (2002).

ILECs to lease UNEs at below-cost rates, however, TELRIC has blocked the development of a voluntary, market-based wholesale market.

B. The CLECs Uniformly Fail to Address the Rapid Growth of Intermodal Competition and the Consequent Need for TELRIC Reform.

The CLECs argue that there is no need to reform TELRIC because the principles and conditions on which TELRIC was based are "as valid today as [they were] in 1996." AT&T Comments at 17. But this position ignores the dramatic changes in the telecommunications industry that have occurred in the last seven years — most significantly, the extraordinary rise of intermodal competition. The CLECs consistently fail even to acknowledge this sea change, let alone recognize its significance.

Intermodal competition has developed in virtually every market the ILECs serve. *See*Verizon Comments at 19-24. For example, at least four cable operators have deployed circuitswitched cable telephony in twenty states, and cable telephony is now available to more than 15
million U.S. homes. *See* Verizon Comments at 20. Cable operators have penetration rates as
high as 40 percent in the most mature markets, and 20 percent in less mature markets. ²¹/₂ In the
words of Morgan Stanley, cable telephony "represents the largest long-term competitive threat to
the RBOCs." Morgan Stanley, *2Q03 Trend Tracker: Casualties of War*, at 13.

See, e.g., Dan Somers, President and CEO, AT&T Broadband, Operational Overview, AT&T Broadband, Investor Presentation, at 16-17 (July 2001) ("Some [Chicago] suburbs have 40 percent penetration."); James Granelli, Expanding Cable Telephony Is New Kid on SBC's Block, L.A. Times (Jan. 21, 2003) ("As of the end of September, Cox provided telephone service for 30% of the 304,000 households it has wired in 14 south Orange County cities, where nearly all the homes are hooked up. It has a similar share in the San Diego County communities it serves."); News Release, AT&T, AT&T Broadband-Comcast Merger Will Create More Competitive Marketplace (Apr. 23, 2002) (then-AT&T chairman C. Michael Armstrong said "AT&T Broadband has already gained 25 percent or higher cable telephony penetration in 55 communities").

Deployment of VoIP presents a second source of intermodal competition. Cable operators throughout the country have begun deploying commercial VoIP services, ^{22/} and have announced plans to offer service to nearly 100% of cable homes passed over the next two to three years. ^{23/} Investment analysts have pointed to cable companies' rollout of these services as "the largest risk to Bell fundamentals over the next 5 years," noting that "the impact on margins is increasingly evident today." ^{24/} Indeed, one analyst estimates that Bells will lose "20% to 30% consumer voice market share, as a result of the aggressive introduction of voice services by the cable industry over the next 5 to 7 years" and that "7% of access lines may be at risk by 2005." ^{25/} And providers other than cable companies are also offering VoIP services. For example, Vonage provides VoIP service to customers throughout the country. ^{26/}

See Alan Breznick, Major MSOs Prepare for Full-Scale Rollouts of VoIP Service: Comcast and Cox Shift into Launch Mode, Joining Time Warner and Cablevision, Cable Datacom News (Nov. 2003), available at http://www.voip-news.com/mso.html (noting that Time Warner Cable, Cablevision Systems, Cox Communications, and Comcast Corp., as well as many small cable operators, have all either already introduced commercial voice-over-IP services or are launching "soft" market rollouts or large market trials).

J. Halpern, Bernstein Research, U.S. Telecom and Cable: Faster Rollout of Cable Telephony Means More Risk for RBOCs, Faster Growth for Cable, at 3 (Jan. 9, 2004); see also Matt Richtel, Time Warner to Use Cable Lines to Add Phone to Internet Service, N.Y. Times (Dec. 9, 2003) (noting that AOL Time Warner has announced that it will provide VoIP service on a nationwide basis and be in "most, if not all, of its markets" by the end of 2004); David P. Willis, Cable Calling, Asbury Park Press (Nov. 23, 2003), available at http://www.app.com/app/story/0,21625,859803,00.html (observing that Cablevision already has deployed VoIP service throughout its New York and New Jersey service areas).

John Hodulik, UBS Investment Research, *Cable Telephony Competition: Who Gets It?*, at 1 (Aug. 7, 2003).

²⁵ F. Governali, *Telecom Services: Quantifying the VoIP Threat, An Eye-Opening Exercise*, Goldman Sachs, at 1 (Dec. 23, 2003).

Press Release, Vonage, Vonage Completes 100 Million Calls Over its SIP Network (Dec. 10, 2003).

Wireless telephony, too, continues to grow at a rapid pace, capturing not only subscribers but also large quantities of traffic from wireline networks. As Chairman Powell has observed, "much of the most significant competition in voice . . . has come from wireless phone service." Analysts have estimated that wireless traffic has displaced 30 percent of total wireline minutes — a trend that is accelerating as wireless minutes of traffic are growing much faster than wireline minutes. By 2006, a Yankee Group study predicts, U.S. mobile subscribers will increase by 50 percent and will "dominate personal calling and severely cannibalize landline minutes of use." ILECs are also losing traffic as a result of the growth of e-mail and instant messaging services. It is estimated that consumers in the United States are sending

Competition Issues in the Telecommunications Industry: Hearings Before the Senate Comm. on Commerce, Science, and Transportation, 108th Cong. (2003) (prepared statement of Michael K. Powell, Chairman, FCC).

See FCC Reports Wireless Sub Growth is Leveling, Mobile is on Rise, Communications Daily, Vol. 23, Issue 124 (June 27, 2003).

Phil Cusick *et al.*, Bear, Stearns & Co., Inc., Industry Report, *Non-Public Operators Steal the Show...Again*, Investext Rpt. No. 7397790, at *7 (May 20, 2003) ("For the next year we are looking for [wireless] minute-usage growth of 16% per user, and 26% overall as more customers are added and more telecom minutes are migrated to wireless."); *see also* S. Flannery, *Telecom Services: 2004 in Prospect: Listening to the Investor*, Morgan Stanley Equity Research, at 8 (Jan. 12, 2004) (predicting that a "surge in wireless substitution" will occur as a result of wireless number portability and wireless unlimited calling packages).

News Release, Yankee Group, Consumers Abandon Landlines and Increase Mobile Call Volumes, Creating Strong Growth in the Wireless Market, Reports Yankee Group (Sept. 16, 2002).

approximately 3.2 billion e-mail messages $\frac{31}{}$ and approximately 1 billion instant messages per day. $\frac{32}{}$

The rapid growth of intermodal competition has exacerbated the economic distortions caused by TELRIC. *See* Kahn/Tardiff Decl. ¶ 7-13. As Verizon explained in its opening comments, TELRIC makes the fundamental error of setting prices on the basis of regulators' predictions of the *outcome* of competition rather than by emulating the competitive *process. See* Verizon Comments at 19; Kahn/Tardiff Decl. ¶ 7. But where real competition develops from firms competing intermodally with different types of technologies and different entry strategies, "basing 'predictions' of what levels competitive prices would ultimately reach on the real or hypothetical network structure of any particular firm or firms (as TELRIC tries to do) becomes increasingly problematic and, perhaps more important, impossible to validate" Kahn/Tardiff Decl. ¶ 12.

Moreover, because intermodal competition already constrains incumbents' prices and provides pressure to innovate and develop new services, there is no basis for the Commission to rely on speculation about "efficient" pricing: ILECs' actual data will present the best evidence of costs in an efficient market. Further, the constraints imposed by intermodal competition undercut the Commission's rationale for setting UNE rates below the incremental costs of the ILECs — that is, to "jump start" competition. *Id.* ¶ 9. To the contrary, it is now even more critical to create a level playing field for ILECs, CLECs, and intermodal competitors alike. Under the current TELRIC rules, incumbents must compete against intermodal competitors such

^{31/} See T. Shinkle, *Time for a New Look at E-mail Management*, Computer Technology Rev., at 48 (June 2001).

^{32/} See R. Gann, Fast Talking Instant Messaging Software, Internet Magazine, at 140 (Jan. 1, 2001).

as cable companies and wireless providers while being force to subsidize CLEC entry through below-cost UNE rates. Intermodal providers, too, are disadvantaged by having to compete against CLECs that benefit from below-cost UNEs. TELRIC must be corrected so that UNE prices send proper economic signals and create investment incentives that enable ILECs and CLECs to compete — with each other and with intermodal competitors — on fair and efficient terms. *Id*.

II. THE COMMISSION SHOULD REPLACE TELRIC WITH A METHODOLOGY THAT BASES UNE RATES ON THE INCUMBENT'S ACTUAL FORWARD-LOOKING COSTS.

As Verizon explained in its initial comments, the goals the Commission set out in the NPRM — sending "efficient entry and investment signals to all competitors" and "provid[ing] incumbent LECs an opportunity to recover the forward-looking costs of providing UNEs,"33/ require replacing TELRIC with a rate-setting methodology based on the incumbent's actual forward-looking costs. Verizon Comments at 25-30; Shelanski Decl. ¶¶ 15-18; Kahn/Tardiff Decl. ¶¶ 25-26; see also Ex Parte Comments of Florida Public Service Commission at 5 (January 23, 2004) ("Florida Public Service Commission Comments"). The CLECs assert that basing UNE rates on the incumbent's actual forward-looking costs will not send the correct, investmentencouraging economic signals, and will reinstate a discredited form of either reproduction or historic costing. They are wrong. As the Commission recognized in reaching its tentative conclusion that the TELRIC rules "should more closely account for the real-world attributes" of the incumbent's network, NPRM at 18965 \ 52, the only way to cure TELRIC of its many serious and inherent defects is to base UNE rates on objective data and inputs that reflect the ILEC's real network, not hypothetical speculation about what an ideally efficient network might look like.

A. Basing UNE Prices on the Incumbent's Actual Forward-Looking Costs Is Both Economically Sound and Legally Required.

As Drs. Shelanski, Kahn, and Tardiff explained in their declarations attached to Verizon's initial comments, UNE rates based on the incumbent's actual costs would send the

Notice of Proposed Rulemaking, Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers, 18 FCC Rcd 18945, 18960 ¶ 38 (2003) ("NPRM").

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Incumbents' actual forward-looking costs are efficient. Incumbents have had strong incentives to be as efficient as possible for many years. As an initial matter, ILECs have been subject to price cap regulation at both the state and federal levels for many years. As the Commission recognizes in the *NPRM*, price cap regulation "create[s] a strong incentive for carriers to operate as efficiently as possible." *NPRM* at 8966 ¶ 58. Although the CLECs argue that price caps are an ineffective means of encouraging incumbent efficiency and innovation, *see*, *e.g.*, AT&T Comments at 48-49; CLEC TELRIC Coalition Comments at 81-82, the Commission has repeatedly recognized that price cap regulation provides effective incentives for efficiency and has concluded that rates set by carriers subject to price cap regulation are "disengaged from embedded costs" and "are currently at or close to economic cost levels." As

Local Competition Order at 15909 ¶ 821; see also Sixth Report and Order in CC Docket Nos. 96-262 and 94-1, Report and Order in CC Docket No. 99-249, Eleventh Report and Order in CC Docket No. 96-45, Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers; Low-Volume Long-Distance Users; Federal-State Joint Board on Universal Service, 15 FCC Rcd 12962, 12968-69 ¶¶ 13-16 (2000) ("Access Charge Reform Sixth Order") ("Price cap regulation encourages incumbent LECs to improve their efficiency by harnessing profit-making incentives to reduce costs, invest efficiently in new plant and facilities, and develop and deploy innovative service offerings, while setting price ceilings at reasonable levels. Individual companies retain an incentive to cut costs and to produce efficiently, because in the

Drs. Shelanski and Tardiff explain, the CLECs' arguments to the contrary are incorrect.

Shelanski/Tardiff Reply Decl. ¶¶ 12-17; see also Shelanski Decl. ¶ 16; Kahn/Tardiff Decl. ¶ 10.

The CLECs repeatedly argue that price caps *alone* cannot produce the incentive effects of effective competition. AT&T Comments at 48-50; CLEC TELRIC Coalition Comments at 81-82. But this ignores the fierce intramodal and intermodal competition, described above, which incumbents now face. *See also* Shelanski/Tardiff Reply Decl. ¶ 11; Kahn/Tardiff ¶ 8; Shelanski Decl. ¶ 16; Florida Public Service Commission Comments at 5. To survive in the telecommunications market alongside wireless carriers, cable telephony providers, VoIP, e-mail, and instant messaging, and other facilities-based wireline carriers, the incumbents *must* be efficient. Thus, contrary to AT&T's claim, the combined competitive and regulatory pricing pressures on ILECs *have* forced ILECs to achieve "the lowest possible network costs" for fear of "actually losing significant portions of their demand." AT&T Comments at 48.

Not only is it economically sound to base UNE rates on the incumbents' real-world data; both the Act and the Constitution *require* that the Commission's rate-setting methodology produce rates that compensate the incumbents for their actual forward-looking costs of providing UNEs. *See* Verizon Comments at 30-34. Section 251(c)(3) of the Act requires that UNE rates be "just, reasonable, and nondiscriminatory." 47 U.S.C. § 251(c)(3). TELRIC rates cannot meet this standard. UNE rates that are below the ILEC's actual forward-looking costs allow CLECs to use the ILEC's network facilities at rates below the costs that the incumbent itself must bear when it uses those facilities. As a result, the CLEC gains an unfair and artificial competitive advantage over the ILEC when both compete to serve customers using the same facilities.

short run their behavior has no effect on the prices they are permitted to charge, and they are able to keep any additional profits resulting from reduced costs.").

Therefore, section 251(c)(3) requires that the Commission set rates that recover the ILECs' actual forward-looking costs.

The Constitution requires the same result. Because the UNE regime gives the ILECs' competitors the right to use and enjoy a portion of the ILEC's network, it constitutes a taking of property within the meaning of the Fifth Amendment and thus triggers the constitutional requirement of just compensation. In order to compel a private party to produce a good or service, the government must compensate the party for the actual forward-looking costs it incurs to produce the good or service, particularly where, as here, the utility has not voluntarily dedicated its facilities to the required use. See Verizon Comments at 32-33. Moreover, sections 251(c)(3) and 252(d)(1) require that UNE rates be "just and reasonable" — a standard that has long been interpreted to require rates that are compensatory within the meaning of the Fifth Amendment. Accordingly, the establishment of confiscatory UNE rates violates not only to the Constitution, but also the Act.

See Bell Atlantic Tel. Co. v. FCC, 24 F.3d 1441, 1443-46 (D.C. Cir. 1994); GTE Northwest, Inc. v. Public Util. Comm'n, 900 P.2d 495, 501-07 (Or. 1995); see also Local Competition Order at 15872 ¶ 740 (assuming that "unbundled facilities requirements do result in a taking").

The Supreme Court has held that utilities cannot be forced to continue to provide service indefinitely at below-cost rates. *See, e.g., Brooks-Scanlon Co. v. R.R. Comm'n*, 251 U.S. 396, 399 (1920); *Pacific Tel. & Tel. Co. v. Tax Comm'n*, 297 U.S. 403, 413 (1936); *Northern Pac. Ry v. Dep't of Pub. Works*, 268 U.S. 39, 43-45 (1925); *Railroad Comm'n v. Eastern Texas R. Co.*, 264 U.S. 79, 85-86 (1924); *Missouri Pac. Ry. v. Nebraska*, 217 U.S. 196, 205, 208 (1910). Nor can regulation impute unattainable efficiencies; parties must be allowed a fair opportunity to recover capital expenditures and earn a reasonable return. *See, e.g., In re Permian Basin Area Rate Cases*, 390 U.S. 747, 769 (1968); *FERC v. Pennzoil Producing Co.*, 439 U.S. 508, 517 (1979).

^{37/} See, e.g., In re Permian Basin Area Rate Cases, 390 U.S. at 769-70; FPC v. Natural Gas Pipeline Co., 315 U.S. 575, 586 (1942).

^{38/} See Verizon Communications Inc. v. FCC, 535 U.S. 467, 489 (2002) (Act permits "novel

B. Basing UNE Rates on the Incumbent's Actual Forward-Looking Costs Will Provide a More Objective Measure of Costs.

Basing prices on the ILEC's network also will help to eliminate the "black box" nature of the TELRIC standard and provide a more objective measure of costs. Using real-world network data to design a cost study and the relevant inputs *must* be more reliable and predictable than using complicated abstractions. *See NPRM* at 18967-68 ¶ 60. In applying TELRIC today, states look to cost models that *hypothesize* ideally efficient route structures, technology mixes, and levels of spare capacity. In contrast, a model based on an ILEC's actual network would use real-world, objectively verifiable data with respect to those same characteristics. Contrary, then, to the allegations of some CLECs, a UNE rate-setting methodology based on ILECs' current networks would not be "intrinsically" more difficult to apply, nor would it "greatly complicate cost modeling." *See, e.g.*, AT&T Comments at 38; MCI Comments at 18.

The CLECs' repeated assertions that there is not complete data about every single aspect of ILECs' networks are both overstated and miss the point. *See* AT&T Comments at 29-30; MCI Comments at 7; CLEC TELRIC Coalition Comments at 72-73. First, there is objective data concerning critical inputs such as operating expenses, customer locations, distribution terminal locations, depreciation lives, and the prices for facilities such as cables, digital loop carrier systems, and switching equipment. Costs should be based on such available objective data about

rate setting designed to give aspiring competitors every possible incentive to enter local retail telephone markets, *short of confiscating the incumbents' property*") (emphasis added).

The CLECs' related contention that TELRIC should not be changed because the state commissions are now accustomed to its application is specious. *See, e.g.*, AT&T Comments at 38. Clearly, the extent to which the state commissions are accustomed to the moderation of disputes over hypothetical network constructs or the "black box" nature of current TELRIC proceedings is not a reason to preserve an approach that yields incorrect results. And, in any event, no matter how much experience states may have with such disputes, basing rates on objective, verifiable information clearly is a more administrable approach.

ILECs' networks instead of elaborate hypotheses about the costs of an ideally efficient network. In addition, costs should be based on the same reliable and well-tested engineering principles that ILECs use when building their networks, rather than "abstractions" about how a network might be engineered.

Indeed, in the state proceedings, the CLECs themselves often rely on at least some actual data from the ILECs' networks in their own models. For example, in California and Washington, CLECs used Verizon's data with respect to customer addresses, line counts, and types of services. And CLECs regularly rely on Verizon's ARMIS database for annual expense data. Not only does this belie the CLECs' claim that the incumbent's data is somehow inherently more complicated or difficult to apply than the hypothetical network data in their models, but it also undermines the CLECs' claim that Verizon's data is inaccurate. *See, e.g.*, AT&T Comments at 29-30, 38.^{40/}

Finally, the Commission should not heed the urging of the CLECs to reject the ILECs' networks as a basis for assessing UNE costs because the ILECs possess much of the information about their networks and such an approach would cause an "information imbalance." *See, e.g.*,

At least one CLEC again raises the Continuing Property Records Audit that the Audit Staff performed in 1998 and 1999, in which the Staff initially labeled as "not found" some of the assets Verizon listed in its Detailed Continuing Property Record ("DCPR") database. *See* AT&T Comments at 30. However, as Verizon has now explained on numerous occasions, the conclusions of the audit staff report — which were factually rebutted by Verizon at the time — were premised on deeply flawed procedures that were rejected by Accounting experts and included extrapolations described as "indefensible" by one Commissioner at the time. Ultimately, the Commission never adopted the staff report, and dismissed the audit with no findings against Verizon. *See Bell Atlantic Telephone Companies' Continuing Property Records Audit*, 14 FCC Rcd 5541 (1999) (Separate Statement of Commissioner Harold Furchtgott-Roth Dissenting in Part).

AT&T Comments at 39; MCI Comments at 6-7, 19. 41/ The point of discovery is to correct information imbalance, and there is no reason that well-defined and limited discovery could not fully resolve any information imbalance between ILECs and CLECs with respect to the ILEC's network data. Specifically, as Verizon recommended in its initial comments and discusses below, the Commission should issue guidelines to the states that encourage as much upfront disclosure of relevant information as possible, identify objective sources for relevant information, and then limit subsequent discovery — both in scope and quantity. *See* Verizon Comments at 106-110. For instance, the ILECs could be required to disclose certain basic accounting and plant-related data prior to the filing of cost studies, and all parties could then be required to disclose all of the relevant source data underlying their cost studies at the time that they file the studies.

This solution would not, as some CLECs also contend, "require an exponential increase in the amount of discovery necessary from the incumbent LEC." AT&T Comments at 38. In fact, the ILECs and the CLECs appear to agree that, under TELRIC, the discovery process in the state proceedings has been enormously burdensome, and that the goal should be to reduce that load. 42/ Concrete discovery measures that would target the information most relevant to the cost

Inasmuch as some of the information that ILECs use in assessing their forward-looking costs is not information exclusive to the company, CLECs can use public sources to obtain this information for their cost models. For instance, ARMIS data and the actual topography of any region is clearly publicly available information.

See, e.g, Verizon Comments, at 106 ("the [discovery] process is currently undisciplined and unlimited, which can seriously burden all parties"); AT&T Comments at 37 ("the vast majority of the delay and expense of TELRIC cases over the years has been generated by discovery disputes"); see also Comments of California Public Utilities Commission Comments at 10 (Dec. 16, 2003) ("California Public Utilities Commission Comments") (requesting that the Commission refine TELRIC with respect to specific inputs in order to "streamline state proceedings").

proceedings could simultaneously limit the amount of discovery and adequately address any information imbalance concerns.

C. CLEC Criticisms Do Not Undermine Verizon's Proposed Methods for Calculating the Incumbent's Actual Forward-Looking Costs.

In its initial comments, Verizon explained how to calculate the incumbent's actual forward-looking costs using objective, measurable facts about the incumbent's network. *See*Verizon Comments at 35-39. In particular, an ILEC's costs should be based on its existing network configuration and other operational characteristics of the network; operating expenses and non-recurring costs should be based on the ILEC's actual out-of-pocket expenditures; and depreciation lives should be based on the GAAP lives the ILEC uses for its financial reports.

Verizon then described two alternate methodologies for calculating the investment upon which to base annual capital costs — depreciation, cost of capital, and taxes — for particular types of facilities. *See* Verizon Comments at 35-39. The first methodology is a replacement or revaluation approach to UNE pricing, like the current TELRIC pricing rules; the second is an incremental cost approach.

As Dr. Shelanski explained in his declaration, TELRIC attempts to measure costs using a form of a "replacement cost" methodology. *See* Shelanski Decl. ¶ 20. If the Commission chooses to retain a replacement or revaluation approach to UNE pricing, the correct way to determine the economic value of the ILEC's network would be to assess the cost today of the ILEC's actual mix of facilities and infrastructure in the network. *See* Verizon Comments at 35. To make this assessment, a regulator would proceed in two steps: (1) model the ILEC's existing mix of network facilities, technologies, and infrastructure using available information concerning the existing network configuration, the actual sizes and increments of facilities (*e.g.*, cable sizes), and other network characteristics; and (2) adjust the network model to take into account changes

that actually will occur in that network during the forward-looking period that the rates will be in effect. *Id.*; *see also* Shelanski Decl. ¶¶ 22-24.

If the Commission instead were to use a long-run incremental cost approach for assessing the incumbent's actual forward-looking costs, the correct way to do so would be to determine the average unit cost of the facilities mix the ILEC expects to add to the network over a reasonably long-run period going forward. *See* Verizon Comments at 37; Shelanski Decl. ¶ 27. This approach would look to the actual costs that the ILEC would incur to purchase and deploy the facilities and technology the ILEC actually expects to buy. In addition, under this methodology, the regulator would add to these incremental investment costs an economic assignment of all relevant fixed, shared, and common costs. *See* Verizon Comments at 37; Shelanski Decl. ¶ 28.

The CLECs generally attack any approach that would estimate the incumbent's actual forward-looking costs by variously labeling such approaches as "embedded," "reproduction plus," and "short run." *See, e.g.*, AT&T Comments at 42-47 ("short run" and "reproduction plus"); MCI Comments at 4, 19-20 ("short run" and "embedded"); Comments of Covad Communications at 8 (Dec. 16, 2003) ("Covad Comments") ("short run"); CLEC TELRIC Coalition Comments at 64 ("short run"). But the CLECs' use of epithets cannot disguise the absence of any substance to their critiques. Ultimately, each of their arguments either distorts the approach Verizon advocates or simply amounts to a preference for hypothetical assumptions over real-world costs.

First, the CLECs assert that basing UNE rates on actual forward-looking costs is not "forward-looking," but instead necessarily is "historical" or "embedded." See, e.g., AT&T Comments at 44-47; MCI Comments at 4, 22. But the calculation of actual forward-looking costs does not include the historical costs that the ILEC actually incurred when it purchased its

existing facilities. See Shelanski/Tardiff Reply Decl. ¶ 22; Shelanski Decl. ¶¶ 19-36; Kahn/Tardiff ¶¶ 33-36. While such a calculation does start with the mix of facilities in the existing network, the only alternative is to assume (as TELRIC does) a network built from scratch. As explained above, that does not reflect the costs of any real-world competitor, whether the incumbent or a new entrant.

Moreover, an actual forward-looking cost methodology does not take the existing network as given and simply seek to reproduce it. Rather, the proposed replacement methodology includes whatever upgrades or other changes the incumbent expects to make to its network over a reasonable planning period. Similarly, the incremental cost methodology looks at the full range of deployments the incumbent expects to make, including planned upgrades. Because of the incentives created by both price cap regulation and intermodal and intramodal competition discussed above, the incumbent *will* in fact deploy new technologies or facilities when it is efficient to do so. *See* Shelanski/Tardiff Reply Decl. ¶ 23.

The CLECs argue that, even in these circumstances, calculation of actual forward-looking costs is "embedded" because the facilities and technologies the incumbent plans to purchase going forward are necessarily influenced by what it already has deployed. *See* AT&T Comments at 50-52. But that is true for *all* rational, real-world carriers in a competitive market, which obviously must consider issues such as compatibility with existing facilities in determining whether and to what degree to deploy new facilities. Thus, AT&T's argument is

While the Constitution requires the Commission to allow the incumbents an opportunity to recover their prudently incurred historical costs, the Commission should establish a *separate* competitively neutral mechanism apart from UNE rates to recover those costs. *See* Verizon Comments at 89-96.

just a variation on its refrain that UNEs should be priced based on the costs of a new network built from scratch. 44/

Second, the CLECs repeatedly insist that the development of new technologies causes old technologies to be revalued so that the costs of equipment of an older vintage are no higher than the costs of the newer vintage. See, e.g., AT&T Comments at 22-26; MCI Comments at 16-17. To take AT&T's example, if a computer costs \$100 and then a newer computer with the same functions costs \$75, AT&T asserts that the value of the older computer is immediately reduced to \$75. See AT&T Comments at 23; AT&T Comments, Baumol Essay at 6-7; AT&T Comments, Willig Decl. ¶¶ 29-30. But AT&T's assumption that the value declines instantaneously and automatically to the cost of the newer technology does not reflect what happens in the context of assets used primarily in complex networks in which no service provider will instantaneously and ubiquitously deploy the newer technology. As Drs. Shelanski and Tardiff explain, the constraining effect of new technologies is far more complicated than AT&T assumes and depends on a number of different factors. Shelanski/Tardiff Reply Decl. ¶ 27.

In any event, Verizon's proposed methodologies look to *current* or recent market prices when determining the value of network assets, whether they are already in the existing network or planned new purchases. *See* Verizon Comments at 36; Shelanski Decl. ¶ 26. Thus, Verizon's approach takes into account the constraining effect the availability of new technologies actually has on the value of older technologies. Shelanski Decl. ¶¶ 24, 29-30. To the extent that a new

The same flaw is embedded in AT&T's contention that an actual forward-looking cost approach is improper because it reflects the allegedly higher "unit costs" of upgrades and additions. *See* AT&T Comments 45-46. But, of course, efficient carriers in the real world do expand and upgrade their network incrementally and therefore incur the unit costs associated with such incremental investment. It is TELRIC that fails to reflect the incumbent's actual forward-looking costs by positing that a network initially sized perfectly to serve all current and foreseeable demand. *See* Shelanski/Tardiff Reply Decl. ¶ 25.

technology has reduced the value of an existing asset in the incumbent's network, that reduction will be reflected in the market price; in AT&T's example, the market price for the computer should be \$70, if its value has been constrained as AT&T posits. If, on the other hand, the constraining effect does not work as AT&T posits, the market price will reflect that as well. *See* Shelanski/Tardiff Reply Decl. ¶ 27. Because the amount of capital depreciation and the return on investment included in the actual forward-looking cost calculation are based on these market price valuations, any reduction in market value that has been caused by the increased efficiency of new technologies will be reflected in a lower forward-looking cost. The resulting rate will reflect the incumbent's actual forward-looking costs, not the hypothetical cost of a new network using only the newest technologies.

Third, the CLECs argue in various ways that calculating actual forward-looking costs would be "short run," or a hybrid of short-run and long-run. See, e.g., AT&T Comments at 42-43; MCI Comments at 19-20. Verizon is of course not advocating a short-run incremental cost approach that ignores all the investment and related costs for existing facilities that would be used to provide UNEs; even the CLECs seem to recognize this would radically understate costs even more than TELRIC. See Shelanski/Tardiff Reply Decl. ¶ 29. Instead, forward-looking investment costs should be determined using a planning period that is long enough that it produces a realistic and representative picture of the ILEC's expected costs without distorting the picture with short-term or one-time events. But, at the same time, the planning period should not be so long that it is almost completely speculative, and thereby inaccurate. As Verizon explained in its initial comments, the planning period should ideally be as long as the rates that are being set are expected to be in effect. See Verizon Comments at 38; Shelanski Decl. ¶ 33. A reasonable time frame, therefore, is approximately three years.

Contrary to the CLECs' claims, such a planning period is entirely consistent with a "long-run" analysis. In practice, a long-run cost study can only examine a limited time period. See Shelanski Decl. ¶ 35; Shelanski/Tardiff Reply Decl. ¶ 30. In the telecommunications industry, technology and demand conditions significantly change over time. And a carrier simply cannot make reasoned predictions beyond a certain time frame about how its network will change over time, what replacement technologies it will deploy, and what that technology will cost. Asking carriers to speculate beyond a time frame in which reasoned predictions are possible would only diminish the value and reliability of a cost study. Therefore, even if an ILEC tries to make its cost study as long-run as possible, it has to look at some finite period to inform the inputs used in that study. And during that finite period, of course, the ILEC will not replace all its facilities, so not every input used in the cost study will actually vary from the existing network. But properly assessing the ILEC's actual forward-looking costs during a foreseeable period requires looking to the technology and facilities mix the ILEC uses today and how that mix is in fact expected to vary in the finite period. A long-run study does not require hypothesizing a so-called "long-run" mix of facilities that does not reflect how the incumbent's (or any other carrier's) network will ever look like, either in the short or the long run.

III. EACH INPUT USED TO DETERMINE UNE COSTS CAN AND SHOULD BE BASED ON OBJECTIVE, VERIFIABLE DATA.

The Commission should provide specific and concrete guidance on how to determine each of the critical inputs for UNE rates based on objective, real-world data.

A. Network Assumptions

1. Loops

a) Network Routing and Topography

The CLECs concede, as they must, that loop routing in UNE cost studies should reflect real-world topography and the locations of buildings and geographical features. See e.g., NPRM at 18965 ¶ 52 (UNE rates should reflect the "real world attributes of the routing and topography of an incumbent's network."); AT&T Comments at 57 (UNE studies "should not . . . produce cost estimates that could only be achieved if cables could be routed through lakes and over mountains in ways that are not achievable (or desirable) in the real world."); CLEC TELRIC Coalition Comments at 79 (acknowledging that "lakes, rivers, freeways, soil conditions, and other topographical conditions" should be reflected as "involuntary constraints in UNE rates"). Indeed, they insist that their UNE cost models under TELRIC today do precisely this. See, e.g., AT&T Comments at 57-58; Sprint Comments at 19. This of course is *not* always the case; as SBC and Qwest showed, for example, the UNE models some states have adopted simply assume away sidewalks and paved roads. See Opening Comments of SBC Comments Inc. at 21 (Dec. 16, 2003) ("SBC Comments"); Comments of Qwest Comments International Inc. at 31 (Dec. 16, 2003) ("Qwest Comments"). And even the CLECs admit that their models use what AT&T refers to as "abstractions" to model what they think the network should look like. See AT&T Comments at 58. Thus, notwithstanding the nod to the real world, TELRIC models are inherently designed to produce hypothetical network costs, not to measure the costs of a real one.

As noted above, there is no merit to the CLECs' contention that the ILECs' outside plant records are insufficient and unreliable and thus cannot inform UNE loop studies. See AT&T Comments at 56-57; Declaration of Michael D. Pelcovits at 21-27 (Dec. 16, 2003) ("AT&T Comments, Pelcovits Decl."); Comments of NASUCA at 5 (Dec. 16, 2003) ("NASUCA Comments"). The incumbents do maintain verifiable engineering records and ARMIS accounts that contain substantial amounts of data relevant to network routing: this includes customer and terminal locations, and line count and service type data. In fact, even while suggesting that the incumbents' records are flawed or inaccurate, AT&T in the next breath insists that the Commission must compel incumbents to produce such information. See e.g., AT&T Comments at 61. And those network design features that cannot be directly derived from the incumbent's records should be informed by the incumbent's established engineering guidelines — which are accepted across the industry and are specifically designed to produce an efficient, functional network. Since those precise engineering guidelines inform the existing network and will inform the forward-looking network the incumbent will actually build over time — the UNE costs produced by applying those principles in the loop study will be a far more relevant measure of real-world costs than the hypothetical approach the CLECs advocate.

The CLECs claim that incumbents' networks are a poor basis for UNE costs because they are replete with inefficient, uneconomic routing features. *See* Declaration of Joseph P.

And indeed, AT&T just recently used all this data from Verizon to model UNE loop costs in California. See Decl. Robert A. Mercer in Support of Joint Commenters' Opening Comments, filed in Verizon Permanent UNE Phase, Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks; Investigation on the Commission's Own Motion into Open Access and Network Architecture Development of Dominant Carrier Networks, Docket Nos. R.93-04-003, I.93-04-002, at 10-11 (Calif. Pub. Utils. Comm'n Nov. 13, 2003) (describing Verizon's customer data as "the best available information on the location of an incumbent's business and residential customers").

Riolo on Behalf of AT&T Corp. ¶ 135-140 (Dec. 16, 2003) ("AT&T Comments, Riolo Decl."); MCI Comments, Pelcovits Decl. at 25. The Commission should reject this out of hand. The CLECs' suggestions for making the incumbents' networks more "efficient" uniformly require ignoring real-world network and operating constraints and devolve into the purely hypothetical. For example, MCI claims that "efficient" networks would have larger serving area interfaces ("SAIs") than those found in the incumbent's networks today. *See* MCI Comments, Pelcovits Decl. at 25. But this depends on the unrealistic notion that an "efficient" carrier could anticipate perfectly the level of demand that will develop in a given area and size and place its facilities to serve that total demand at the lowest possible unit costs.

Basing loop costs on the incumbent's network data and engineering guidelines and practices and on its forward-looking plans is clearly the best measure of the cost a *real-world* carrier would incur to design a network given all the relevant routing constraints — topography, rights-of-way restrictions, historical and environmental concerns, unique local demand characteristics, and the like. Hypothetical "abstractions" about theoretically more "efficient" routing have no real-world relevance to the incumbent's costs, or the costs *any* carrier ever would incur in connection with a functional network. Only costs based on the incumbent's routing data can therefore provide accurate economic signals to the CLECs, or adequately compensate the incumbent. The Commission should thus affirm its tentative conclusion that UNE rates should more closely account for real-world network routing.

b) Fill Factors

The Commission similarly should clarify that UNE rates must reflect the fill produced by the incumbent's engineering guidelines and real-world factors such as churn — not the hypothetical fills typically advocated by the CLECs. The ILECs' engineering guidelines are designed to ensure that ILECs can serve demand as efficiently as possible while satisfying

required service quality and performance standards. Applying these guidelines to size cables in UNE cost studies therefore will produce a realistic level of spare capacity, once adjustments are made to account for churn, breakage, maintenance, and other real-world factors that lead to or require spare capacity. Accordingly, UNE cost study fill should be consistent with observed fill in the incumbents' networks, which represents the best measure of efficient, forward-looking fill the incumbent — or any carrier — could expect in a real-world network.

The CLECs contend that forward-looking fills should be determined without any regard to real-world fill because incumbents' existing fills are inefficient. Their arguments are erroneous and inconsistent with the constraints of an actual, operating network. For example, AT&T suggests that ILECs' existing fills reflect "past practices of building excess loop capacity in their networks." AT&T Comments at 67. But this is wrong for many reasons.

First, particularly in urban and denser areas of the network, older plant installed in the past is typically the most full: the parts of the network that produce the highest levels of spare are likely those where plant has *recently* been relieved or where plant for a new development has just been installed. Facilities built long ago thus are generally unlikely to drive particularly high fill levels.

Second, even in those cases where spare was built for purposes for which it was never used — an occurrence that AT&T exaggerates dramatically — any excess levels of spare capacity that incumbents might have installed years ago would certainly have been used up over the past decade for other purposes, as price caps and competition have taken hold and given the incumbents every reason to reduce investment costs. Thus, for example, the spare that AT&T says exists solely because the incumbents built out to serve Centrex demand that never

materialized, *see* AT&T Comments at 67-68, has since been used by Verizon to serve other needs.

Third, AT&T's suggestion that the incumbents may have built out to areas where subscriber growth did not materialize or that have shrunk over time, *see* AT&T Comments at 67, is speculative, and in any event does not show that the underlying engineering practices or the resulting fill is inefficient. Even if there are pockets of such areas throughout the network, there are other places where demand has far exceeded expectations and thus spare is particularly low at any given point; in any network, demand will grow and shift over time. The idea that fill should instead be determined as if the ILEC could perfectly predict demand growth and size exactly to serve that demand is unrealistic: demand is not static and no carrier could maintain fill that reflected such perfect prescience at all times.

Fourth and finally, any plant installed recently *would* reflect the cost-cutting pressures the incumbents have faced in recent years.

The CLECs also argue that the incumbent's fills and engineering guidelines include capacity for future growth that should be paid for by future, not current users of the network, and that accordingly should be excluded from current UNE cost studies. *See e.g.*, AT&T Comments at 64-66. To begin with, however, capacity to serve uncertain demand today and in the immediate future, "breakage," churn, 47/ and maintenance typically are far more significant

[&]quot;Breakage" refers to the fact that copper cables are only in discrete cable sizes, such that it often is necessary to select a cable containing more pairs than engineering guidelines would otherwise require, thus increasing spare.

[&]quot;Churn" in this context refers to the movement of customers on and off the network. Customers moving in and out of apartments causes churn, for example.

drivers of spare capacity than future growth. Service requirements and penalties in many incentive regulation agreements also may compel certain fill levels, requiring Verizon to maintain the efficient designed levels of fill so as to meet both wholesale and retail customer demand. See Verizon Comments at 45.

But even to the extent that some spare capacity is installed to accommodate future growth, it is entirely appropriate for UNE rates to recover those costs. Installing spare capacity in anticipation of future demand is far more cost-effective than installing capacity incrementally after or as the demand materializes. Further, having insufficient spare to accommodate growth can hamper the incumbent's ability to fill new orders in a timely fashion. Maintaining some spare for future growth thus is an efficient network practice.

Moreover, AT&T is wrong that spare capacity in the network today is "filled up" by future demand. AT&T Comments at 66. That argument ignores the reality of telecommunications networks. Capacity in the network is not static: no carrier could allow most spare to be used up by growth without supplementing to produce sufficient *new* spare to ensure continued network health and responsiveness. Engineering a network to fit existing demand that tightly would render the carrier incapable of serving the next increment of demand, or even providing continued service to existing users in the event of any significant maintenance or

AT&T contends that churn caused by vacant apartments does not cause spare because the line is left in place for 911 and other purposes. AT&T Comments at 62. But a line left in place in a vacant customer location does not produce any revenue — and thus is "spare." AT&T is also wrong that "advances" in splicing techniques, materials, terminal equipment, and serving area design should reduce spare needed to accommodate defective pairs. *See e.g.*, AT&T Comments, Riolo Decl. ¶ 27. The ILECs already apply these "advanced" techniques, equipment and designs. In the real world, it remains inevitable that cable pairs may become temporarily or permanently defective for any number of reasons.

repair problems. Thus, while spare in particular facilities or neighborhoods fluctuates up and down over time, the average level of spare across the network stays fairly constant over time. 49/

Precluding ILECs from recovering the full carrying costs of spare capacity installed in anticipation of future demand accordingly would lead to underrecovery of the costs of an efficient network. And there is no merit to the argument that it would be uneconomic for an ILEC to charge current customers for the cost of spare capacity because that ILEC would be vulnerable to entry by a competitor that did *not* charge current customers for the cost of spare capacity for future growth. *See* AT&T Comments, Willig Decl. ¶ 88. There is no such carrier, because spare is an efficient need *all* real-world carriers face, and no functional carrier could operate successfully for any period of time without both providing, and recovering the costs of, such spare.

The fact that ILECs have begun to experience decreases in total lines is no basis to reject fills that include some spare capacity for future growth, as AT&T argues. See AT&T Comments at 66. Though incumbents' overall demand may be declining, demand in many neighborhoods continues to grow. It is not possible to predict precisely where demand will decrease versus where it will increase. To serve customers in those areas efficiently, ILECs must have sufficient available spare capacity. Verizon Comments at 46.

AT&T also asserts that existing fills should be increased because it speculates that increased competition will result in "more efficient mechanisms to respond to ... fluctuations" in demand. AT&T Comments, Riolo Decl. ¶ 20. But as discussed above, Verizon

Indeed, today's users benefit from capacity that was installed as spare in the past. But under AT&T's view, users apparently pay neither for the incumbent's having borne spare capacity without remuneration in the past, nor for the spare capacity costs the incumbent bears today. While all users therefore benefit from the existence of spare capacity in the network, *none* pay. That makes no sense.

already faces significant and increasing competition that has provided incentives to operate as efficiently as possible. And AT&T has pointed to no mechanism or engineering solution that might allow the more "responsive" granular fill it hypothesizes. Current TELRIC rules preclude assuming the use of technologies that are not "currently available," 47 C.F.R. § 51.505(b)(1); AT&T's suggestion here rests on technology that not only is not currently available, but that is so theoretical even AT&T has not tried to describe it. Thus it is perverse to propose reducing fills on the basis of an utterly fictional "mechanism" at a time when the Commission is exploring how to revise TELRIC to make it *more* realistic and relevant, not less so. ^{50/}

Finally, while the CLECs advocate extreme, hypothetical increases to the incumbents' fills on the grounds that those fills are too low and inefficient, they point to no carrier that has achieved such fill in the real world. They do not claim that *they* have achieved the fills they propose. Instead, apparently conceding that their own fills are much lower, they insist that their fills are irrelevant, citing the allegedly unique characteristics of their networks, customer bases, and business plans. *See* AT&T Comments, Riolo Decl. ¶ 68. But if "unique" network characteristics are relevant to CLEC fill levels, those same unique characteristics of the *incumbent's* network clearly are relevant to the proper efficient fill levels for that network.

That the airline and trucking industries allegedly increased utilization following deregulation, *see* AT&T Comments, Riolo Decl. ¶ 72, does not free the Commission to speculate that incumbents could do so. Deregulated industries can discontinue service at will and determine how quickly to fill customer demands. But incumbents, who face carrier-of-last resort obligations and service quality standards, do not enjoy such "deregulation." And the Commission should dismiss out of hand AT&T's suggestion that UNE rates need not account for fill that results from incumbents' carrier-of-last-resort obligations because such obligations are met by universal service funds. *Id.* ¶ 67. Many states do not even have universal service funds at all. Verizon and other incumbents generally rely on implicit subsidies from higher-margin customers — the very customers the CLECs target. CLECs using UNE-P also take access charges that should be going to fund the incumbents' service costs. CLECs using UNEs thus *decrease* the incumbent's ability to support its carrier of last resort obligations: they can hardly claim that the supposed availability of such support should reduce their UNE costs.

AT&T makes clear, however, the extreme nature of the CLECs' proposal: it contends that even if a new entrant could somehow build a network today that could serve the same level of demand as an incumbent's ubiquitous network, the resulting fill would be irrelevant in the CLECs' eyes, because it would necessarily "reflect . . . inefficiencies." *Id.* ¶ 69. In other words, the level of spare that even a hypothetical carrier would require to serve full network demand today is *necessarily* inefficient. Thus, the CLECs contend that fill should be based on the proposals they pull out of a hat — even if all the empirical evidence demonstrates that there is *no way* to operate a large, functional network at those average fill levels. But that position fails even by AT&T's own strained economic theory: if *no* carrier could operate at the fills the CLECs propose, those preposterous hypothetically "more efficient" fills cannot serve as any type of "pricing constraint" on the incumbent. *See e.g.*, AT&T Comments at 63, 65.

c) Structure Costs

UNE rates should reflect the level of structure sharing that the incumbent actually enjoys in the real world, rather than speculation about the level of sharing that would exist if certain immutable, real-world facts somehow could be changed or disregarded. Incumbents' ARMIS data and other company accounting records provide the most accurate information about the structure sharing that incumbents have been able to attain in the past and are likely to attain in the future. As those records illustrate, even with the pressures of price cap regulation and

As Verizon showed in its opening comments (at 46-47), UNE rates should also reflect the structure *type* the incumbent actually deploys in the network; like other network characteristics, existing and planned structure choices reflect the application of the incumbent's engineering guidelines and the relevant real world factors, and are the best evidence of realistic, efficient, forward-looking structure. ARMIS records and other sources provide reliable and verifiable structure data. The CLECs did not address this issue specifically in their comments, but address only structure *sharing* costs.

increasing competition, incumbents share structure only to a limited degree. And this is unlikely to change to any significant degree, if at all, on a forward-looking basis.

AT&T and a handful of other commenters argue that UNE rates should be based on levels of structure sharing that are substantially higher than the incumbent actually has been able to attain. *See, e.g.*, AT&T Comments at 69-72; CLEC TELRIC Coalition Comments at 83; Affidavit of David J. Gabel and Robert Loube on Behalf of NASUCA ¶¶ 146-150 (Dec. 16, 2003). The CLECs suggest that the incumbents *could* have achieved more structure sharing than they actually have to date, and that the incumbents also will (or should) attain higher levels of sharing in the forward-looking network. But neither argument makes sense.

First, AT&T argues that incumbents' current sharing levels are not efficient because they reflect investment decisions undertaken many years ago, when incumbent carriers had few incentives and more impediments to share structure than they do today. AT&T Comments at 72. AT&T is wrong. Incumbents' records reflect both the level of structure sharing achieved in the past *and* any structure sharing the incumbents have been able to attain in *new* developments and in connection with outside plant that has been upgraded, replaced, and improved over the past ten years. A substantial amount of outside plant has been installed during that ten-year period, at the same time as incumbents have faced explosive competition and price cap regulation.

Accordingly, incumbents have had significant incentives to seek out available, sensible structure sharing opportunities.

Second, the need to reduce costs in an era of price caps and competition have provided incumbents with incentives to substantially *increase* sharing of *pre-existing* facilities, too, regardless of whether the incumbent had incentives to share when those facilities were initially installed. In many cases, structure sharing can occur at any time: the incumbent's inability (or

even unwillingness) to share in the past would not typically constrain its ability to implement sharing today. For example, additional cable can be threaded into conduit that the incumbent installed years ago. And incumbents always can allow additional carriers and utilities to attach wires to existing poles — though pole sharing costs do *not* fully compensate the incumbent for a relevant share of its structure costs. Thus, it is in many cases entirely irrelevant whether the incumbent *historically* faced substantial sharing incentives. Incumbents' existing records reflect the amount of sharing the incumbents have been able to achieve *today*, when they face pressures that lead them to increase sharing wherever efficient.

AT&T next argues that incumbents' current levels of sharing are not a valid basis for estimating forward-looking sharing, because there will be substantially more opportunities to share structure in the future. See generally AT&T Comments at 69-70. AT&T's view requires wishing away the real world. In developed areas — where the vast majority of incumbents' structure investments are made each year — other utilities and carriers have already installed most of the facilities they need to run their businesses. Accordingly, when incumbent telecommunications carriers install new facilities that require new structure investment in those areas, other utilities rarely have reason to share the incumbents' structure investment. Even when other utilities do need new or additional structure — where, as AT&T posits, those utilities have to replace their pre-existing structure with new structure over the long run, see AT&T Comments at 71; AT&T Comments, Willig Decl. ¶ 97 — the need to coordinate schedules and construction makes sharing difficult, expensive, and sometimes inefficient. See Verizon Comments at 47. Moreover, sharing opportunities for buried and underground facilities are constrained by technical and safety considerations; as ALTS notes in its Economist's Report, "voltage differences and safety concerns" make "sharing of buried costs with the electric utility.

.. relatively difficult and rare." Analysis of Ben Johnson Associates on Behalf of ALTS at 39 (Dec. 16, 2003). AT&T's contention that "power utilities . . . and other telephone carriers have substantial incentives of their own to share structure," AT&T Comments at 69, ignores reality. Those entities typically have more attractive alternatives to actual sharing of a full share of the incumbent's structure costs: in many cases, they can lease underground ducts and/or aerial structure from the incumbent at a sharp discount, rather than having to incur a major share of the large, up-front investments needed to place such structure.

These factors combine to limit sharing opportunities and to make sharing — even where another entity is potentially available — infeasible. Municipal ordinances that encourage or require sharing, *see* AT&T Comments at 70-71; AT&T Comments, Riolo Decl. ¶¶ 96-101, 106, do not change this fact. Sharing still can occur only where it is available and technically feasible. In fact, such ordinances have already been adopted throughout the country on a wide scale, and thus incumbents' sharing already reflects whatever increased sharing may have resulted.

This same disregard for the reality that sharing cannot always or readily occur simply because other entities that install networks exist undermines AT&T's argument that upgrades by power and cable companies, road widening projects, new developers' alleged offers to place telephone plant for free in trenches they build for other utilities, and other such factors require a substantial decrease to UNE rates to reflect the assumption of increased sharing. Again, coordination and safety requirements can preclude sharing even where two entities are actually placing cable down the same route. And in any event, the various factors AT&T describes are

not features of the *future*: they have been occurring for years, and whatever effect they have had on structure sharing levels already are reflected in ILECs' recent sharing experiences. 52/

In the end, AT&T's true position is that the existing or future level of sharing in the real world is irrelevant: in its view, a high degree of sharing should be assumed in order to generate an "incentive" for incumbents to share the costs of their real-world structure installations on a going-forward basis. AT&T Comments at 72; AT&T Comments, Willig Decl. ¶ 95. Thus, for example, AT&T proposes that regulators should be free to simply assume that incumbents share 75% of pole costs, because incumbents allegedly *should* be able to share poles with power companies, cable TV providers and other carriers. But pole sharing and pole sharing fees already are regulated by the Act and do not compensate the ILEC for a full share of its structure costs — and certainly do not produce anywhere near 75% savings of ILEC pole costs. And, under the clear dictates of the Act, UNE rates are required to compensate incumbents for their costs; they cannot be set below-cost in order to create additional sharing "incentives." Price caps and extensive competition already provide incumbents with real-world competitive incentives to share structure where efficient, and additional artificial, regulatory incentives are unnecessary. Thus, the amount of structure sharing incumbents *actually* enjoy is the best measure of sharing

The incumbents' data likewise reflect any sharing that has resulted from what AT&T characterizes as "recent" technological developments such as the increased use of fiber facilities by cable television providers. AT&T Comments, Riolo Decl. ¶¶ 82-83, 85. Since the incumbents were installing most fiber facilities over the past decade, at the same time as the cable operators began pursuing fiber deployment, incumbents would have engaged in whatever sharing was possible with respect to their fiber structure.

 $^{^{53/}}$ Id. ¶ 89. In the real world, incumbents do *not* share 75% of pole costs, because *only* electric utilities share pole investments with ILECs. Other utilities and carriers instead pay pole attachment fees, which are accounted for in reduced pole expenses — but which do not reduce structure investment costs.

that is achievable and efficient in the real world, and is certainly more "verifiable," *see* CLEC TELRIC Coalition Comments at 83, than pure speculation by CLECs or regulators.

d) Technology Mix

The Commission should make clear that UNE cost studies must assume the mix of technologies that actually will be in place in the incumbent's network when the UNE rates are in effect. In the context of loop inputs, this means that UNE cost studies should include both newer and older technologies — such as IDLC and UDLC — to the extent that ILECs continue to employ that mix of technology.

The CLECs argue that TELRIC models today assume only "technologies and practices that have been proven and widely deployed — including by the ILECs themselves." AT&T Comments at 25-26. But in fact, the CLECs advocate the use of technologies that do not even exist today. As noted above, for example, AT&T claims fill should be based on technology that it asserts might be developed at some future date to allow engineers to design facilities that can respond more precisely to changes in demand. And AT&T cites GR-303/IDLC as an example of one of the "proven and widely deployed" technologies that cost models should assume, AT&T Comments at 26, suggesting that loop costs will be constrained by the lower price of IDLC-GR-303. But as Verizon and others showed in their comments, Verizon Comments at 40-41; SBC Comments at 58-59, and as the CLECs themselves have conceded, 54/ the ILECs do *not* currently deploy IDLC/GR-303 to unbundle stand-alone UNE loops, because the required technological

See, e.g., Ex Parte Letter from Joan Marsh, Director, Federal Government Affairs, AT&T, to Marlene Dortch, Secretary, FCC, filed in CC Docket Nos. 01-338, 96-98, and 98-147, at 3 (Dec. 4, 2002)(observing that "[t]here are provisioning, alarm reporting, and testing issues that have not yet been worked out for using GR-303 in a multi-carrier environment," and that "other operational concerns must be addressed before the deployment of any solution whose underlying architecture and technology is premised on GR-303 DLCs").

and security solutions to accomplish this *are not currently available*. If no carrier can use GR-303/IDLC to serve unbundled stand-alone loops, UNE cost should not reflect such technology: indeed, that technology cannot even be assumed to constrain the costs of unbundled stand-alone loops. Yet the CLECs' TELRIC models — and those frequently adopted by the states — make precisely this unrealistic, entirely hypothetical proposal. The Commission should make clear that UNE rates must reflect the incumbent's actual network at it will evolve while the rates are in effect, and may not reflect cost savings from imaginary technologies that the incumbent has not deployed. The substantial pressures from intermodal competition and price caps provide incumbents with every incentive to deploy the most efficient technologies available to them, taking into account relevant real-world considerations, and UNE prices should be based on the incumbent's mix of technologies.

e) Effect of *Triennial Review* Broadband Unbundling Limitation on Loop Costs

The CLECs grossly exaggerate the impact on UNE rates that should follow from the Commission's decision in the *Triennial Review* to eliminate ILECs' obligations to provide unbundled access at UNE rates to broadband capabilities of hybrid copper fiber loops, and to certain very high capacity and new all-fiber loops. Verizon's cost studies already exclude broadband-specific costs or expenses, and therefore CLECs have not been charged for them.

See, e.g., Order, Cause No. 42393, at 47 (Ind. Reg. Comm'n Jan. 5, 2004); Final Opinion and Order, Case No. R-00016683, at 65 (Pa. P.U.C. Dec. 11, 2003) (affirming conclusion in earlier Tentative Order that GR-303 could be used to unbundle stand-alone loops); Order No. 12610, Case No. 962, at 96 ¶ 265 (D.C.P.S.C. Dec. 6, 2002); see also Memorandum Opinion and Order, Petition of Worldcom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Expedited Arbitration, et al., 18 FCC Rcd 17722, 17844 ¶ 312, 17845-46 ¶ 315, 17848 ¶ 322 (2003) ("Virginia Arbitration Order").

With respect to high capacity and new all-fiber loops, incumbents already allocate joint and common costs appropriately in their cost studies — for example, in allocating costs between loops and transport.

First, the Commission's decision in the *Triennial Review Order* to limit CLEC access to the voice grade capabilities of hybrid copper-fiber loops does not alter the cost the incumbents incur to provide the underlying loops themselves, contrary to AT&T's suggestion. *See* AT&T Comments at 53-55. The costs of the specific loop facilities related to the incumbent's broadband capabilities — for example, DSL line cards — have never been included in the costs of the loop, and no one contends they should be. But the basic costs the incumbent incurs to provide a hybrid copper-fiber loop are the efficient costs of providing a basic, voice loop. Thus, whether the CLEC obtains a loop on hybrid facilities or a copper loop, the CLEC should pay the full cost for voice-grade loop capacity, not some subset of those costs, as AT&T advocates. *See id.*

Hybrid loops are used in the network (and included in the costs of the forward-looking network in Verizon's cost studies) only where they are the optimal efficient design for *any* network, whether the goal is to provision voice *or* broadband service. For example, fiber feeder is the optimal choice in certain circumstances because it is the most efficient choice considering

Nor, as noted above, is there anything to the CLECs' suggestion, AT&T Comments at 54, 101; MCI Comments at 5, that expenses related to broadband facilities must be removed from loop rates (or other UNE rates). As Verizon previously has explained, because no broadband *facilities* are included in a cost study, there is no investment to which cost factors may be applied. Therefore, the cost study also does not include direct costs or a share of joint or common costs for broadband.

In fact, CLECs are not charged based on the *particular* loop they receive. They are charged a rate reflecting the average cost that Verizon incurs to provide the level of loop capacity they order (*i.e.*, the average cost of a two-wire loop).

both investment and operating costs. Even the CLECs concede that forward-looking network design should include more, not fewer, hybrid loops. *See, e.g.*, Covad Comments at 5 (optimal network design will include more fiber feeder). It makes no sense to advocate that efficient design to reduce costs, on the one hand, and then to insist that the use of that design should excuse CLECs from paying for its full costs.

Second, the fact that certain loops like OC-n loops or new fiber loops are no longer subject to unbundling does not require any major adjustment to UNE costing principles. Since these loops are no longer subject to unbundling, the investment costs or direct expenses of those loops are not included in Verizon's cost studies and CLECs do not pay for them. Similarly, under allocation principles that have been applied in UNE cost studies since 1996, CLECs do not pay for the share of joint or common costs appropriately allocated to such facilities — precisely the result the CLECs advocate. *See* AT&T Comments at 53-55. Therefore, this aspect of the *Triennial Review Order* does not require the Commission to adopt any special rules. For example, Verizon's cost studies already account for the sharing of structure between narrowband, DS3 and OC-level loops, as well as transport, to the extent such sharing exists. The same principles should continue to apply to the pricing of UNE loops and do not require any modification of the Commission's UNE pricing rules.

Finally, as the CLECs note, in the future, it is possible that fiber overlaid in an area previously served by copper will require the incumbent either to provide an analog channel on a fiber loop or to maintain the copper for the sole or primary purpose of serving CLECs. But despite MCI's suggestion that CLECs are about to be relegated to "old network' copper loops that the ILEC may have retired," MCI Comments at 13, that situation clearly does not exist today. Of course, if CLECs are not provided access to the fiber loops, but instead are served on